

THE FIVE LOAVES HOST THE STRANGER (T2)

S1
T2
D7
L1 P3

Focus on:

- Robotics (D7)



Task1: What does the landscape look like?

Students create elements of the landscape.

Every solution is good!

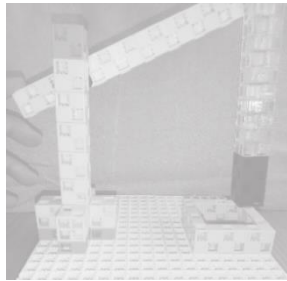
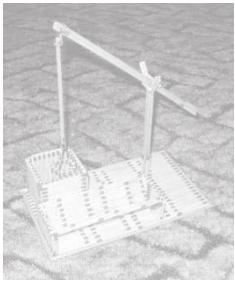
Any kind of tool and material can be used!

You can use the ideas and the list of materials from the Idea Bazaar, use your own ideas or just let the children to solve the problem using their creativity.

Idea Bazaar – some ideas:

- Building environment out of ArTeC Blocks
- Building environment out of recycled materials
- Drawing
- Creating computer graphics

For details of the different solutions, see the Idea sheets!



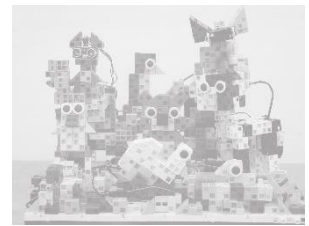
Developmental fields:

In focus:

- Fine motor skills
- Spatial orientation
- Creativity

In addition:

- Attention concentration
- Subject concentration – Natural Sciences
- Talent development



Task2: What does a puppet with movable limbs look like?

Students create a human figure with movable limbs.

Every solution is good!

Any kind of tool and material can be used!

You can use the ideas and the list of materials from the Idea Bazaar, use your own ideas or just let the children to solve the problem using their creativity.

Idea Bazaar – some ideas:

- Building a puppet out of ArTeC Blocks
- Cutting and binding a cardboard puppet
- Drawing series
- Animation editor

For details of the different solutions, see the Idea sheets!



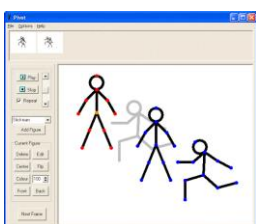
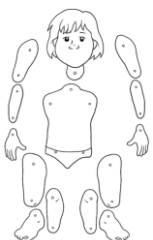
Developmental fields:

In focus:

- Fine motor skills
- Spatial orientation
- Creativity

In addition:

- Attention concentration
- Subject concentration – Drawing, IT
- Talent development



How to manage output:

Hang the pictures on the wall, on a big poster, and ask the children to arrange them according to a rule they decide. Store the objects in a wardrobe, to protect them from falls. Attach a label with the name of the group!

THE FIVE LOAVES HOST THE STRANGER (T2)

S1
T2
D7
L2 P3

As they were taking the bread out from their sacks, a third traveller, unknown to them, caught up to them and, stopping beside them, bade them good day. He then asked them to share their food with him, as he was very hungry, had no provisions, and there was no place to buy anything. "Come, good man! Share our hospitality!" said the two travellers to the stranger, "for, thank God, where two can eat, there is always enough for a third.

The stranger, being very hungry, did not wait to be asked twice, but sat by the other two and all three ate dry bread and drank water from the well, for there was nothing else to drink. And the three of them ate and ate and ate, until the five loaves were all eaten, as if they had never been there at all.

When they had finished, the stranger took five coins from his purse and gave them to the man that had three loaves saying: " Good fellows! Please accept this small token of my gratitude, for you have indeed been friends. to me Further on, you can buy yourselves a glass of wine each, or do whatever you please with the money. I can't thank you enough for the kindness you have shown to me, for I was nearly blind with hunger."

The two travellers hesitated before accepting the money but, after a good deal of insistence on the third's part, they accepted. Then, a little later, the stranger said goodbye, and continued on his way.

Focus on:

- Robotics (D7)

Goals of the lesson:

- text comprehension
- problem solving
- decision making
- organizing group work

Characters	Features	Interactions
loan	Walks, sits, eats, 2 loaves	Move together, talk to each other and to the Stranger
Stefan	Walks, sits, eats, 3 loaves	
Stranger	Walks, sits, eats, says thank you, 5 coins	Walks, looks for the well, talks to loan and Stefan, eats, gives coins

Suggestions

- Discuss how human movements are made
- Make some movements together and the children should perceive the phases of their own movements
- Show movable anatomical models to the children
- Build a simple figure with movable legs, arms or mouth from ArTeC Blocks

How to use the character card:

Each student fills in their own Character card:

- writes the name of the character
- their features, movements, reactions, etc.
- collects the elements of the environment, other accessories, things to be built
- thinks over the phases, tools and materials of the robot building

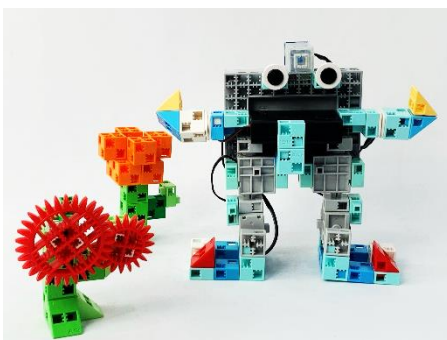
Students can use more pieces of each parts of the Character card if needed!

Stefan
loan
Stranger

Walk
Sit
Eat
Raise their arm
Express thanks


Route on the field
5 loaves of bread
Five coins
The loaves should be divided into three pieces

The main actions of the story
Media files needed
Divide the text segment into pieces
Make a list about things needed




Suggested materials

- ArTeC robot and Blocks (at least the 112 pcs set)
- Anatomical models or pictures of mouth, arms and legs
- white paper, pencil, folder




Your name _____

Build _____




Your name _____

Be attentive, your robot should be able to: _____



Your name _____

There also should be: _____



Your name _____

Think over: _____

THE FIVE LOAVES HOST THE STRANGER (T2)

S1
T2
D7
L3-4
P4



Suggested materials

- ArTeC Blocks (at least the 112 pcs set) and ArTeC robotics set (at least Studuino motherboard, 2 DC motors, wheels, 2,4 or 6 servo motors, 1 or 2 Touch sensors)
- Anatomical models or pictures of arms and legs
- Mindmap or Chart draft template
- Storyline template
- Pencil

Focus on:

- Robotics (D7)

Goals of the lesson:

- fine motor skills,
- problem solving,
- decision making

How to fill in the Robotic card?

- Choose robot's „activity” and its programming complexity according to the Character task card, the developmental aim and the programming level that fits to the child's skills!
- More Robotic cards can be filled in if needed (for clarification or for differentiation).

Suggestions

Walking

- Discuss how human walking movements are made
- Make stepping movements together and the children should perceive the phases of their own movements
- Show movable anatomical models to the children
- Build a simple figure with movable legs from ArTeC Blocks

Eating

- Discuss how human eating movements are made
- Make some eating movements together and the children should perceive the phases of their own movements
- Show movable anatomical models to the children
- Build a simple figure with movable arms and mouth from ArTeC Blocks

Arm
Mouth
Make noise
Show the bread's division

Robotic task card

Your name _____

Build a robot that can move it's _____

Use actuators and sensors for building:
 Senses are green
 Actions are blue
 Choose the needed parts!
 Check the boxes!

<input type="checkbox"/> Steadiness	<input type="checkbox"/> Servomotor	<input type="checkbox"/> DC motor	<input type="checkbox"/> Sound sensor	<input type="checkbox"/> Light sensor
<input type="checkbox"/> Accelerometer	<input type="checkbox"/> Infrared sensor	<input type="checkbox"/> Touch sensor	<input type="checkbox"/> Electronic buzzer	<input type="checkbox"/> LED

Build and program so that the robot _____

Use the Technical Corner for robotics programming model!

Related topics in the Technical corner

- Programming DC motor
 - Running the motor with different settings (2.a, b, c, d, f)
- Programming servo motor
 - Moving the arm to a given angle (3.a)
 - Repeated movement of the arm for a number of times (3.b)
 - Synchronous movement of several servo motors (3.d)
- Testing and programming Touch sensor (4.a, 4.b, 4.c)
 - Creating remote control for the robot(4.d)
- Using random numbers (10.)
- Using functions (12.a)

Stranger can move back and forth on a robot

Stranger wanderer eats moving his hand up and down to his mouth

PROG1

Stranger can „walk” by rolling in a zigzag or with simple steps on legs
Stranger wanderer eats, moving his hand up and down to his mouth

PROG2

Stranger can „walk” by rolling in a zigzag or with simple steps on legs
Stranger wanderer eats, moving his hand with realistic (random) movements.

PROG3

Stranger can walk with realistic movements

PROG4



THE FIVE LOAVES HOST THE STRANGER (T2)

S1
T2
D7
L3-4
P5

Ideas for robots on different programming levels

Stranger can move back and forth on a robot
Stranger wanderer eats moving his hand up and down to his mouth

PROG1

Stranger can „walk“ by rolling in a zigzag or with simple steps on legs
Stranger wanderer eats, moving his hand up and down to his mouth

PROG2

Stranger can „walk“ by rolling in a zigzag or with simple steps on legs
Stranger wanderer eats, moving his hand with realistic (random) movements.

PROG3

Stranger can walk with realistic movements

PROG4



Walking stranger

P1 Build a person moving back and forth on a robot

How to build:

- It can be achieved with a rolling car without robotics OR
- Use a Studuino motherboard and 1 or 2 DC motors, and program it to roll back and forth a number of times.

P2 Build a person that moves on a robot in a realistic way back and forth and program it to roll to the well on a given route

- 2 DC motors alternate slow and fast speeds, resulting in a slight zigzagging movement for a set amount of time OR
- Alternating steps with 2 servo motors (propped up from the back)

P3 Build a person that moves on a robot in a realistic way, back and forth and guide it to the well on a given route

- Moves on 2 DC motors, controlled by a 4-Touch sensor remote control OR
- Alternating steps with 2 servo motors (propped up from the back)

P4 Build the person moving with a realistic stepping gait

- Building a robot that can make steps without being propped up, using 4 servo motors
- Synchronous movement of several servo motors
- Taking care to keep balance



Eating stranger

P1 Make the wanderer able to eat bread with a movable arm

How to build:

- It can be achieved with movable parts without robotics OR

P2 Make the wanderer be able to eat bread with servo motor

- It can be achieved by movable parts without robotics OR
- Use servo motor
- Eating begins after the „wandering“ movement comes to an end
- Repeat the eating movement a number of times

P3 Make the wanderer able to eat bread with a servo motor

- Use servo motor
- Eating begins at the press of a Touch sensor
- Repeat the eating movement a number of times

P4 Make the wanderer able to eat bread with servo motor

- Not strictly necessary, if it would be too many tasks along with programming the stepping gait
- Take care so the servo motor built into the shoulder does not ruin the robot's balance